ORIGINAL

ORIGINAL FILE

BEFORE THE

Federal Communications Commission

WASHINGTON, D.C.

RECEIVED
JUN - 8 1992
FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of	)	
	)	
Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies	)	ET Docket No. 92-9

COMMENTS OF AMSC SUBSIDIARY CORPORATION

AMSC Subsidiary Corporation ("AMSC"), by its attorneys, hereby submits its Comments on the Notice of Proposed Rule Making ("Notice") in the above-referenced proceeding, 7 FCC Rcd 1542 (1992).[1/] AMSC is the entity licensed by the Commission to construct and operate the U.S. Mobile Satellite Service ("MSS") system. AMSC urges the Commission to allocate sufficient spectrum for MSS from the pool of frequencies being allocated for emerging technologies. The spectrum to be allocated domestically to MSS should parallel that which the recently-completed 1992 World Administrative Radio Conference ("WARC" or "Conference") allocated internationally for MSS. Specifically, the Commission should allocate to MSS the 1930-1990 MHz band (Earth-to-space)

1/ By Order Extending Time for Comments and Reply Comments, DA 92-398 (April 1, 1992), the Commission extended until June 5, 1992 the deadline for filing comments in this proceeding. The comment date was extended until today by virtue of an Order Denying Request to Defer Comment Dates, DA 92-694 (June 4, 1992).

and the 2120-2150 MHz and 2160-2200 MHz bands (space-to-Earth).[2/] Such action would reflect the international consensus that these bands are necessary to meet the spectrum requirements for MSS.

In 1986, the Commission determined that it was in the public interest to allocate spectrum domestically for MSS.[3/] The Commission noted that MSS would provide land mobile telecommunications service for the first time to remote and rural areas that are unserved by terrestrial service, that MSS is uniquely suited for meeting the needs of the transportation, petroleum and other vital industries, and that MSS offers the promise of meeting public safety needs and providing emergency communications to any area at any time.[4/]

Since becoming the licensee of the U.S. MSS system, AMSC has made tremendous progress toward implementing that system. Despite the licensing obstacles it has faced, construction of AMSC's first satellite is well under way. AMSC has recently contracted for the launch of that satellite in 1994, and for development of the system's ground segment. In the interim, in order to bring some of the benefits of its system to the public,

---

2/ The frequencies between 1990-2010 MHz and 2150-2160 MHz also were allocated to MSS at the 1992 WARC. Since these bands are not within the bands the Commission proposes to reallocate for emerging technologies (1850-1990 MHz, 2110-2150 MHz, 2160-2200 MHz), the domestic allocation of those bands to MSS is not addressed in these Comments.

3/ Report and Order, Gen. Docket No. 84-1234, 2 FCC Rcd 1825 (1986).

4/ Id. at 1841.

AMSC has developed an early service system using a satellite leased from Inmarsat and AMSC's own network operations center.

AMSC, however, continues to be concerned about the availability of sufficient spectrum to fully develop the U.S. MSS system. Unlike terrestrial services, providers of MSS are not assured access to all the spectrum that might be assigned by the Commission. Not only is the amount of spectrum available to MSS providers confined to allocations made to the service internationally, but a user of any frequencies that are allocated internationally must coordinate the use of those bands with other countries around the world which have an interest in protecting systems that they operate or propose to operate on the same frequencies.

In recent years, the large increase in the number of MSS systems seeking the very limited amount of MSS spectrum has brought on an international shortage that prevents the full development of MSS in the U.S. and other countries. More than thirty different MSS systems operate or plan to operate in the 1.5/1.6 MSS band and at least two different operators, Inmarsat and the Soviet Union, use the band for global beam systems that are extremely preclusive.[5/] AMSC's experience in the international coordination process has given rise to serious uncertainty whether sufficient spectrum can be coordinated to permit full development of the U.S. MSS system.

5/ See Comments of AMSC, Gen. Docket No. 89-554 (December 3, 1990) ("AMSC WARC Comments"), Table 1.

Moreover, in recent months five other U.S. entities have proposed to provide MSS via non-geostationary satellite systems. These applicants propose to use the frequencies presently allocated domestically to the Radiodetermination Satellite Service ("RDSS").[6/] As AMSC has shown, however, the serious interference potential these non-geostationary systems pose to existing users of the RDSS bands makes it unlikely that any will be able to gain access to enough spectrum in the RDSS bands to viably support the systems.[7/]

Recognizing the concerns of AMSC and other MSS proponents, the U.S. took the lead in advocating substantial additional allocations of MSS spectrum at the 1992 WARC. The U.S. proposed at the Conference the allocation of 328 additional MHz of MSS spectrum in the 1-3 GHz range.[8/] This was consistent with the

---

6/ See Application of Constellation Communications, Inc., File Nos. 17-DSS-P-91(48), CSS-91-013 (June 3, 1991); Applications of Ellipsat Corporation, File No. 11-DSS-P-91(6) (November 5, 1990) and File No. 18-DSS-P-91(18) (June 3, 1991); Application of Loral Qualcomm Satellite Services, Inc., File Nos. 19-DSS-P-91(48), CSS-91-014 (June 3, 1991); Application of Motorola Satellite Communications, Inc., File Nos. 9-DSS-P-91(87), CSS-91-010 (December 3, 1990); Application of TRW Inc., File Nos. 20-DSS-P-91(12), CSS-91-015 (June 3, 1991).

7/ See Petition of AMSC, RM-7805 (June 3, 1991); Response of AMSC, File Nos. 11-DSS-P-91(6), 9-DSS-P-91(87), CSS-91-010 (August 5, 1991); Petition to Deny of AMSC, File Nos. 17-DSS-P-91(48), CSS-91-013 et al. (December 18, 1991); Consolidated Reply of AMSC, File Nos. 17-DSS-P-91(48), CSS-91-013 et al. (March 27, 1992).

8/ See U.S. Department of State, United States Proposals for the 1992 World Administrative Radio Conference for Dealing With Frequency Allocations in Certain Parts of the Band (July 1991). See also Report, Gen. Docket No. 89-554, 6 FCC Rcd 3900 (1991).

recommendation of the Commission's Industry Advisory Committee for the 1992 WARC, which recommended that, in addition to the MSS allocations that the Commission had already proposed for the 1525-1530 MHz, 1610-1626.5 MHz and 2483.5-2500 MHz bands, over 350 MHz of new spectrum be allocated for MSS.[9/] The U.S. proposal was also consistent with the final report of the CCIR's Joint Interim Working Party ("JIWP") in preparation for the Conference, which estimated that by the year 2010, some 328.2 MHz of spectrum would be required for MSS.[10/]

Due in large part to the efforts of the U.S. delegation, the 1992 WARC was a major success for MSS proponents. The Conference allocated 306 MHz of additional spectrum in the 1-3 GHz band for MSS, both regionally and worldwide. A number of these additional allocations were made in the bands the Commission now proposes to reallocate for emerging telecommunications technologies. Specifically, the 1992 WARC adopted the following allocations for MSS within the 1850-2200 MHz band:

1930-1970 MHz (Earth-to-space) (Region 2, secondary)
1970-1980 MHz (Earth-to-space) (Region 2, primary)
1980-2010 MHz (Earth-to-space) (Worldwide, primary)

2120-2160 MHz (space-to-Earth) (Region 2, secondary)
2160-2170 MHz (space-to-Earth) (Region 2, primary)
2170-2200 MHz (space-to-Earth) (Worldwide, primary)

9/ Supplemental Notice of Inquiry, Gen. Docket No. 89-554, 6 FCC Rcd 1914, 1915 (1991).

10/ CCIR Report, Technical and Operational Bases for the World Administrative Radio Conference 1992 (WARC-92) (1991), at 8-10.

The primary MSS allocations in the 1970-2010 MHz and 2160-2200 MHz bands will be available worldwide in the year 2005, and in the U.S. on January 1, 1996.[11/] However, the U.S. objected to the worldwide limitations and reserved the right to use the bands at any time to meet MSS needs.[12/] Moreover, Inmarsat and others who propose MSS systems for these bands are likely to work to advance the worldwide implementation date at a future WARC, which may occur as early as 1995. Resolutions adopted at the Conference support as rapid as possible an implementation of these allocations, so as to determine the feasibility of sharing between MSS and other services in these bands.[13/] The secondary MSS allocations in the 1930-1970 MHz and 2120-2160 MHz bands will be available on October 12, 1993.

Since the Conference's conclusion, one entity has already indicated its interest in using the additional international MSS allocations. Specifically, Inmarsat has submitted advance publications to the International Frequency Registration Board for two MSS systems to operate in the bands allocated to MSS on a worldwide primary basis (1980-2010 MHz/2170-2200 MHz). Other MSS proposals for these and other MSS bands are likely to follow.

11/ See Footnote 746U, Addendum & Corrigendum to the Final Acts of the World Administrative Radio Conference (WARC-92) (1992), at 17.

12/ See Declaration 67, WARC-92 Document 389-E (March 3, 1992), at 29.

13/ See Recommendation GT-PLEN/B, Final Acts of the World Administrative Radio Conference (WARC-92) (1992), at 123; see also Resolution COM4/6, id. at 84.

The instant proceeding provides the Commission with an opportunity to confirm the public interest benefits of MSS, to recognize the spectrum needs of AMSC and other MSS providers, and to follow through on the successful efforts of the U.S. before and during the 1992 WARC. It is vital that the Commission do so. AMSC therefore urges the Commission to allocate domestically to MSS those frequencies in the proposed emerging technologies bands that have been allocated internationally for MSS. Specifically, the Commission should allocate to MSS domestically on a primary basis the 1930-1990 MHz band (Earth-to-space), and the 2120-2150 MHz and 2160-2200 MHz bands (space-to-Earth). Such allocations would reflect the U.S. efforts internationally to provide for the needs of MSS, as reflected by the allocations made at the 1992 WARC.[14/]

These allocations would go a long way toward assuring that AMSC can coordinate sufficient spectrum for full development of its system. Moreover, these bands would also be attractive for the development of the proposed non-geostationary MSS systems. While AMSC believes these systems are technically flawed, the emerging technologies bands are better suited to accommodating these systems, as the RDSS uplink band is proximate to the existing MSS allocation and therefore uniquely suitable for

---

14/ The Commission recognized in the Notice in this proceeding that MSS is a new service for which sufficient spectrum is unavailable. Moreover, the Commission noted that the spectrum allocated for new technologies should be "compatible with similar international developments," citing specifically the 1992 WARC's focus on MSS spectrum. Notice, 7 FCC Rcd at 1542-43.

integration into AMSC's system. However, any MSS allocations in the emerging technologies bands should be available for the development of both geostationary and non-geostationary MSS systems.

At present, the international consensus is that sharing of spectrum between MSS and terrestrially-based systems is generally not feasible. See CCIR Working Party 8D, Draft New Recommendation, "Satellite Interworking With FPLMTS" (December 19, 1991). Thus, in order to prevent interference between terrestrial and satellite systems, the bands allocated to MSS initially should be separate from the bands allocated to new terrestrial technologies.

The CCIR, however, will continue to study the issue of sharing between MSS and terrestrial services.[15/] AMSC is optimistic that sharing between MSS and terrestrial services will ultimately prove feasible, and thus that the proposed emerging technologies bands eventually will meet the spectrum needs of all new services. In any event, there will remain a considerable amount of spectrum in the proposed emerging technologies bands to accommodate terrestrial and other new technologies.[16/]

15/ See CCIR Question 83-1/8, "Efficient Use of the Radio Spectrum and Sharing of Frequency Resources in the Mobile-Satellite Service." Meetings of various elements of CCIR Study Group 8 are scheduled for June 1992, October 1992 and January 1993, at which the issue of sharing may be considered.

16/ The Notice names low-Earth orbit satellites and a digital audio broadcasting service as new services in need of spectrum. Notice, 7 FCC Rcd at 1543. However, as noted

(continued...)

Moreover, additional spectrum may be available in the 1710-1850 MHz and 2200-2290 MHz government bands to accommodate other emerging technologies.

In order to accommodate the immediate need for additional MSS spectrum, the Commission should adopt a transition plan that provides for a relocation of all existing users of the emerging technologies bands, including state and local government licensees, within four years. As AMSC has demonstrated, sharing between MSS and the users that currently occupy those bands is generally not feasible.[17/] Under the Final Acts of the 1992 WARC, the additional primary MSS allocations within the bands proposed for reallocation will become available in the U.S. in 1996. In light of the U.S. commitment to fostering the growth of MSS and other new technologies, the Commission should make every effort to ensure that these bands can be utilized promptly at the time they become available. AMSC believes that four years will be an adequate period of time for existing users to depreciate existing equipment and relocate to new frequencies, without causing disruption of their services.

16/(...continued)
above, any MSS allocation could be used to accommodate the proposed non-geostationary MSS systems above 1 GHz. The 1992 WARC did not allocate frequencies to Broadcast Satellite Service (Sound) in any of the bands proposed to be reallocated. Therefore, there is no need for separate allocations to these services within the emerging technologies bands.

17/ See AMSC WARC Comments, Annex B, at II-16 through II-20.

Conclusion

The 1992 WARC represents a major step towards ameliorating the current international MSS spectrum shortage and providing for the future growth of AMSC and other MSS providers worldwide. In allocating spectrum for emerging technologies, the Commission must be careful to provide for this growth domestically. AMSC therefore urges that the Commission allocate domestically to MSS the frequencies within the proposed emerging technologies bands that have been allocated for the service internationally.

Respectfully submitted,

AMSC SUBSIDIARY CORPORATION

Bruce D. Jacobs /glm

Bruce D. Jacobs
Glenn S. Richards
Gregory L. Masters
Fisher, Wayland, Cooper & Leader
1255 23rd Street, N.W.
Suite 800
Washington, D.C. 20037
(202) 659-3494

Lon C. Levin /glm

Lon C. Levin
Vice President and
Regulatory Counsel
American Mobile Satellite
Corporation
1150 Connecticut Avenue, N.W.
Washington, D.C. 20036
(202) 331-5858

Dated: June 8, 1992

DECLARATION

I, Thomas M. Sullivan, do hereby declare as follows:

1. I have a Bachelor of Science degree in Electrical Engineering and have taken numerous post-graduate courses in Physics and Electrical Engineering.

2. I am presently employed by Atlantic Research Corporation and was formerly employed by the IIT Research Institute, DoD Electromagnetic Compatibility Analysis Center.

3. I am qualified to evaluate the foregoing Comments of AMSC Subsidiary Corporation. I am familiar with Part 25 and other relevant parts of the Commission's Rules and Regulations.

4. I received, in 1982, an official commendation from the Department of the Army for the establishment of international provisions for the worldwide operation of mobile earth stations.

5. I served as Technical Advisor to the U.S. Delegation to WARC-92 and participated in sessions of WARC-92 addressing frequency sharing and other aspects of MSS.

6. I have been involved in the preparation of and have reviewed the foregoing Comments of AMSC Subsidiary Corporation. The technical facts contained therein are accurate to the best of my knowledge and belief.

Under penalty of perjury, the foregoing is true and correct.

8 June 1992
Date

Thomas M. Sullivan
Thomas M. Sullivan

CERTIFICATE OF SERVICE

I, Valerie A. Mack, a secretary of the law firm of Fisher, Wayland, Cooper and Leader, do hereby certify that I have caused to be served, this 8th of June, 1992, by first-class mail, postage prepaid, a copy of the foregoing "COMMENTS OF AMSC SUBSIDIARY CORPORATION" in the following:

*Mr. Fred Lee Thomas
Office of Engineering and Technology
Federal Communications Commission
2025 M Street, N.W., Room 7338
Washington, D.C. 20554

Valerie A. Mack
Valerie A. Mack

*Hand Delivered